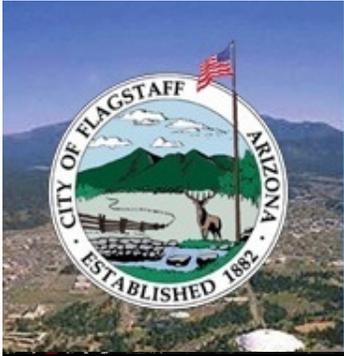


# Discussion on Water Policies Water Adequacy

*Utilities Division  
Bradley M. Hill, R.G.  
Utilities Director (Interim)  
Water Resources Manager*

City Council Work Session  
July 12, 2011





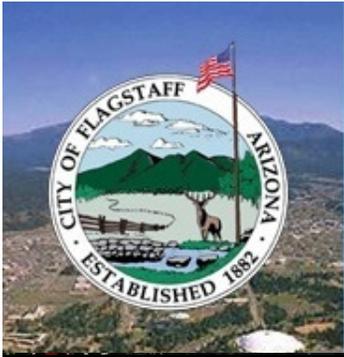
# Policy Overview

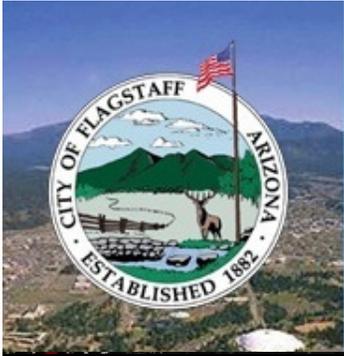
- 
- Regional Plan – Water Element
  - Utilities Water Policies
  - Utilities Programs & Procedures
  - Utilities Annual Budget



# Policy Process

- Staff submit Policy to Council
- Council provides direction
- Staff re-submit same Policy with revisions, “final” direction
- When all Policies considered by Council – bring back entire document for consideration & approval





# Policy - Water Adequacy

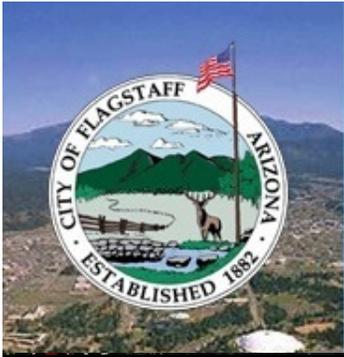
## Policy Question:

Should the City of Flagstaff adopt a policy requiring, at a minimum, knowing whether there is a 100-year water supply available for existing citizens and the anticipated new development?

*“Consumer Protection”*

Goal: Obtain Council guidance & feed back





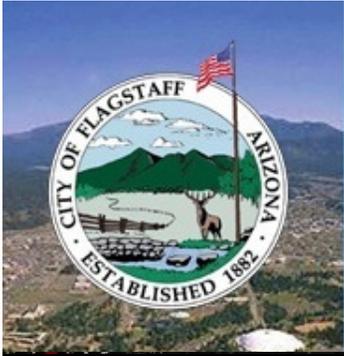
# Arizona Water Management Programs



More Stringent

- ☞ **Water Adequacy “Permissive”**  
– 1973
- ☞ **Water Adequacy “Mandatory”**  
– 2007 (SB 1575 and HB 2692)
- ☞ **Assured Water Supply**  
– 1995



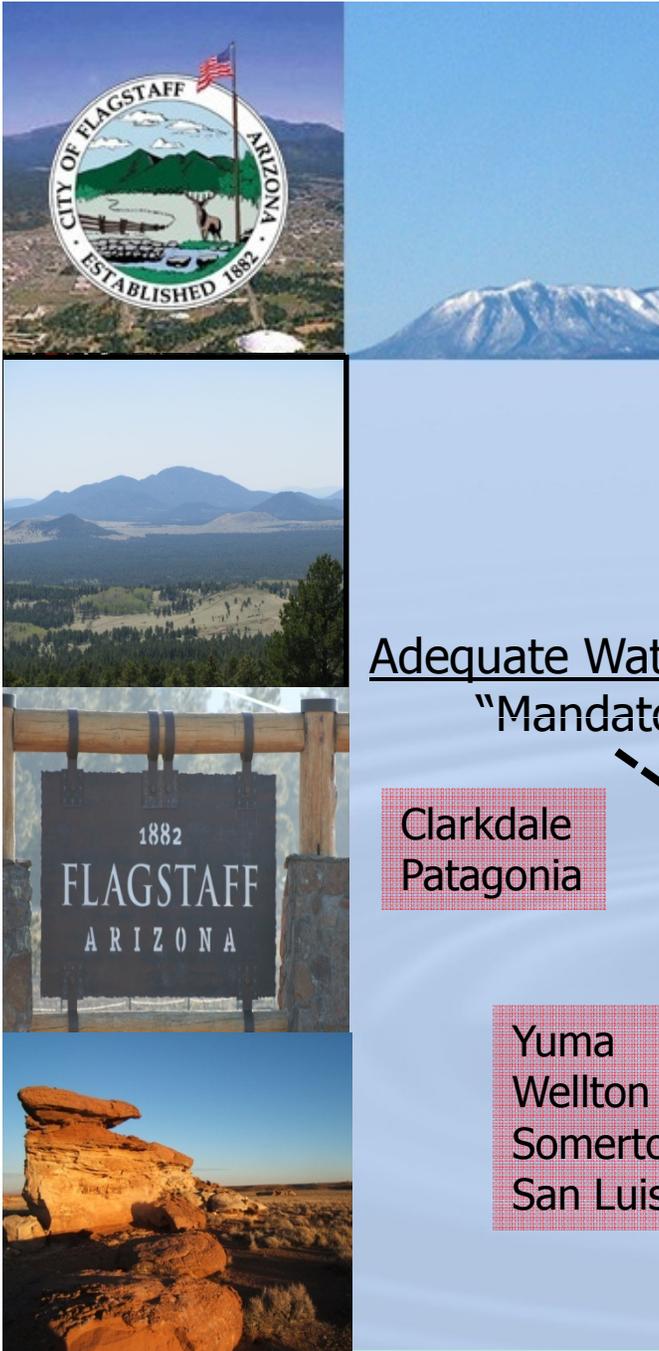


# Criteria for Water Adequacy

- Physical Availability (*Hydrology or Wet Water*)
  - Continuous Availability (*infrastructure*)
  - Legal Availability (*water rights & contracts*)
  - Financial Capability
- Water Quality (US EPA & ADEQ)

City's Designated as having an Adequate Water Supply:  
ADWR requires look 100 years into future,  
must renew every 10 years



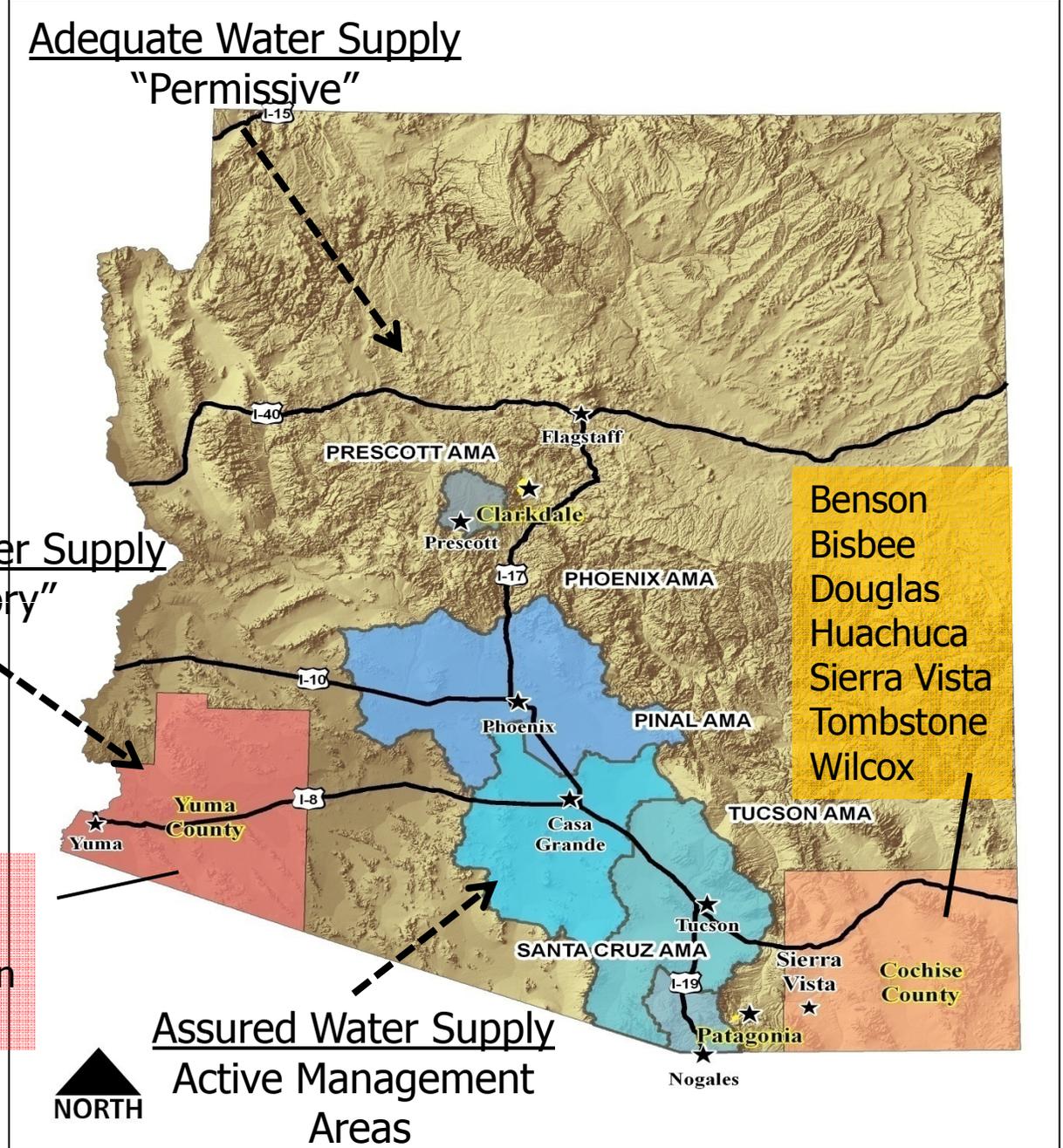


Adequate Water Supply  
"Permissive"

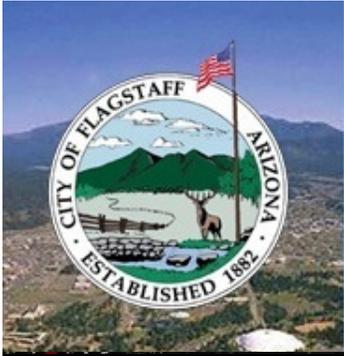
Adequate Water Supply  
"Mandatory"

Clarkdale  
Patagonia

Yuma  
Wellton  
Somerton  
San Luis



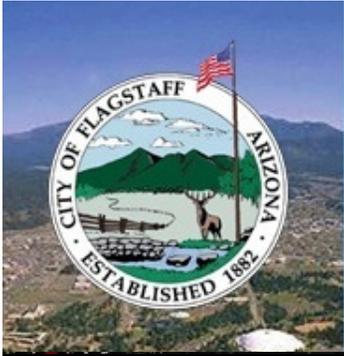
Assured Water Supply  
Active Management Areas



# Timeline for northern Arizona

- 2008-09, ADWR and Coconino County held Stakeholder meetings *City was directly involved*
- 2008-09 ADWR Updating Rules – Hydrologic Guidelines for C & R Aquifers of northern Arizona  
(*City was directly involved along with USGS & NAU*)
- Spring 2009 – new Governor Brewer moratorium on State Agency rule making
- Summer 2009 - City asked County to wait until we define our "*100-year Bucket of Water Supplies*"
- January 2010 – City hires national hydrology firm develop a computerized groundwater model

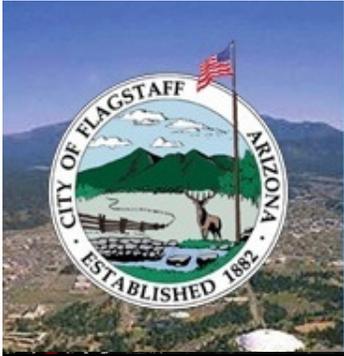




# Flagstaff Designations

- City of Flagstaff Incorporated Limits
  - “deemed” Adequate in May 17, 1973
  - Never required to prove Physical Availability
  - Currently undertaking “Sustainability Study”
- City of Flagstaff Red Gap Ranch
  - January 7, 2011
  - Hydrology study proved up to 16,500 AF/year
  - Requires City to submit hydrology study for local water supplies by January 2012



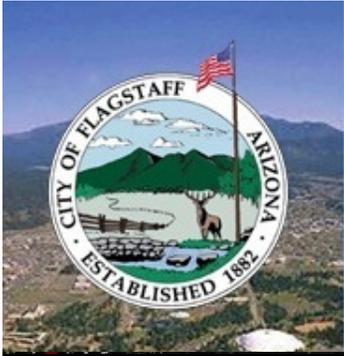


# Water Commission Input

- June 2011 - - Policy language  
*(unanimous approved)*
- April 2011 - - Policy language
- October 2010
- August 2009
- March 2009
- August 2008

*Strategy B.2.2f - Time Limit was their primary focus of discussion*





# Policy B2 – Water Adequacy

## Purpose:

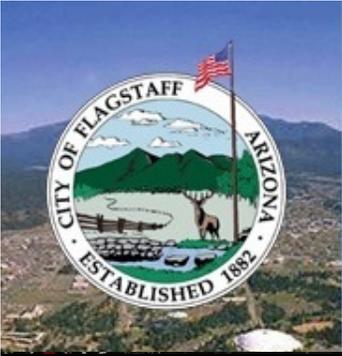
Maintain the City's two Designations to ensure all existing citizens, new committed plats and future projected growth has a minimum 100-year water supply.

## Benefits:

Maintain public's trust in the City's water supplies and provide for long-term economic vitality and community sustainability

Requirement to access any state-wide funding





# Policy B 2.2: Adequate Water Supply Program

*Develop a water management program that will comply with a 100-year Adequate water supply before approving development*

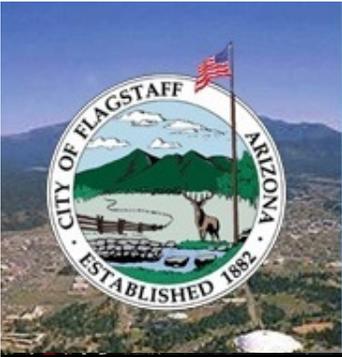
## Water Adequacy

Physical (*hydrology*)  
Legal (*paper*)  
Continuous (*infrastructure*)  
Financial capability  
Water quality

## Development

- # of units  
- Volume of water required at build-out

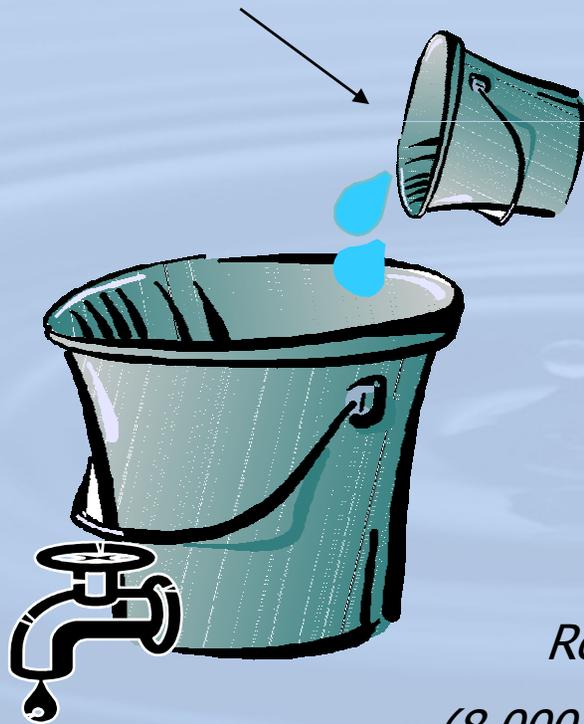




# Strategy B.2.2a: Determine Flagstaff's "Bucket" of Water Supplies



Locally Derived Water Supplies



Locally Derived – Sustainability Study

- Groundwater computer model
- Surface water & Reclaimed water

Additional Groundwater

*Red Gap Ranch – 16,500 AF/year*

*(8,000 AF/year Navajo – Flagstaff Stipulation)*

# UTILITIES INTEGRATED MASTER PLAN

Water Resources Chapter  
Water History, Demand, Existing Supplies  
and Future Water Needs and Recommended Options



April 8, 2011

City of Flagstaff - Utilities Division



EXPIRES 03/31/12

**DRAFT**

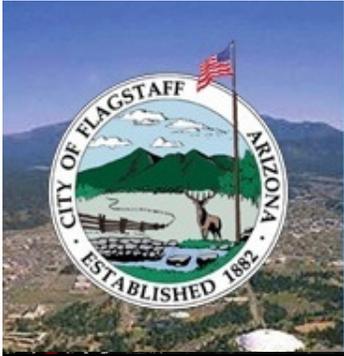
## Strategy 2.2b: estimate long-term water needs

### 1. Scenario Planning

### 2. Population Projections

Historical & slow growth  
Slow growth  
Climate change impacts  
Water Conservation

### 3. Water Needs based upon Regional Plan land uses



# Strategy B.2.2.c: Water Resource Allocation

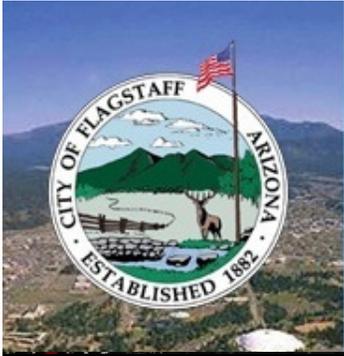
## First Come : First Serve

(reservation of “paper water”)

Date of “Commitment”: based upon Final approved subdivision plat by City Council – state law

Major / Minor Amendments to Regional Plan  
Zoning Map Amendments





# Strategy B.2.2.f: Performance Criteria

Time Limit?: For example: development must obtain Building Permit within 5 years...ability to extend given specific criteria?

*(Sewer Impact Analysis is held for 2 years)*

Purpose of time limit?: would prevent a large development from locking-up “paper” water supplies.





# Strategy B.2.2.e: Tracking Water Resource Allocation v. “Committed” Development

*example*

13,150 AF/Year

8,800 AF groundwater  
2,250 AF surface water  
2,100 AF reclaimed water

Bucket of Water

Available to commit  
2,326 AF/year

Committed  
584 AF/year

Current  
10,240 AF/year

*Water Demands*



# Strategy B.2.2.e: Tracking Water Resource Allocation v. “Committed” Development

*example*

21,150 AF/Year

16,800 AF groundwater  
2,250 AF surface water  
2,100 AF reclaimed water

Bucket of Water

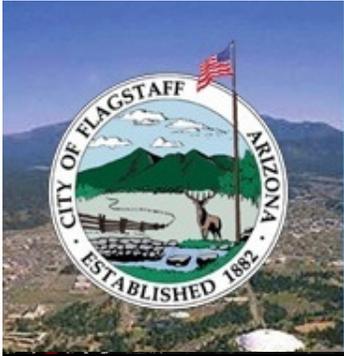
Add Red Gap Ranch

Available to commit  
10,326 AF/year

Committed  
584 AF/year

Current  
10,240 AF/year

*Water Demands*



# QUESTIONS?